

REMARKS

In the Office Action of November 2, 2007, claims 1 and 3-7 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 6,876,757 (hereinafter “Yau et al.”) and article titled “New approach of automated fingerprint matching” by Marius Tico and Pauli Kuosmanen (hereinafter “Tico et al.”). In addition, claim 2 was rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Yau et al. and Tico et al. and further in view of U.S. Patent No. 6,798,908 (hereinafter “Miyatake et al.”).

In response, Applicant has canceled the dependent claim 2 and has amended the independent claim 1 to include the subject matter of the canceled claim 2. As amended, Applicant respectfully asserts that the independent claim 1 is not obvious in view of the cited references of Yau et al., Tico et al. and Miyatake et al., as explained below. In view of the claim amendments and the following remarks, Applicant respectfully requests that the pending claims 1 and 3-7 be allowed.

I. Patentability of Amended Independent Claim 1

As amended, the independent claim 1 recites “*wherein to shift the values, each tile is split into a plurality of groups of pixels distributed extensively uniformly over the tiles, in that, for each tile and each group, the minimum of the corresponding values is formed, in that, for each tile, the mean value is calculated by means of the minimum values of the groups and in that the mean value is stored as a property of the respective tile,*” which is not disclosed in any of the cited references of Yau et al., Tico et al. and Miyatake et al. Thus, Applicant respectfully asserts that the amended independent claim 1 is not obvious in view of these cited references, and requests that this independent claim be allowed.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when

combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

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As admitted on page 6 of the Office Action, the cited reference of Yau et al. “does not disclose a method characterized in that, to shift the values, each tile is split into a plurality of groups of pixels distributed extensively uniformly over the tiles, in that, for each tile and each group, the minimum of the corresponding values is
10 formed, in that, for each tile, the mean value is calculated by means of the minimum values of the groups and in that the mean value is stored as a property of the respective tile.” However, the Office Action asserts that the cited reference of Miyatake et al. discloses such limitations and that “[i]t would have been obvious to one of ordinary skill in the art to modify the fingerprint extraction system of Yau with
15 the method of using the minimum mean as the value for each tile as taught by Miyatake in order to perform image/ridge enhancement.”

However, the cited reference of Miyatake et al. does not disclose these limitations, as now recited in the amended independent claim 1. In particular, the
20 cited reference of Miyatake et al. does not disclose “*wherein to shift the values, each tile is split into a plurality of groups of pixels distributed extensively uniformly over the tiles.*” In column 8, lines 27-31, the cited reference of Miyatake et al. describes calculating a mean value of the value of the minimum value image 175-1 for each block and generating a block-wise mean value image 175-2. However, there is no
25 mention of splitting each tile “*into a plurality of groups of pixels distributed extensively uniformly over the tiles,*” as recited in the amended independent claim 1. Since the cited reference of Miyatake et al. does not disclose splitting each tile into a plurality of groups, the cited reference of Miyatake et al. also does not disclose “*the mean value is calculated by means of the minimum values of the groups,*” as recited in
30 the amended independent claim 1. Thus, the cited references of Yau et al., Tico et al. and Miyatake et al. even if combined do not teach or suggest all the limitations of the amended independent claim 1. Consequently, the amended independent claim 1 is not obvious in view of these cited references. As such, Applicant respectfully requests that the amended independent claim 1 be allowed.

II. Patentability of Dependent Claims 3-7

Each of the dependent claims 3-7 depends on the amended independent claim

1. As such, these dependent claims include all the limitations of the amended
5 independent claim 1. Therefore, Applicant submits that these dependent claims are allowable for at least the same reasons as the amended independent claim 1.

As an example, the dependent claim 4 recites “*characterized in that each tile
is then examined as to whether more than five or fewer than six of the tiles
10 surrounding it have been assessed as belonging to the region of interest, wherein in the case of more than five the examined tile is assessed as belonging to the region of interest and in the case of fewer than six the examined tile is assessed as not
belonging to the region of interest,*” which is not disclosed in the cited reference of Yau et al. The cited passage of Yau et al. in column 4, lines 34-38, fails to disclose
15 “*that each tile is then examined as to whether more than five or fewer than six of the tiles surrounding it have been assessed as belonging to the region of interest,*” as recited in the dependent claim 4. Thus, the dependent claim 4 is not obvious in view of the cited references of Yau et al. and Tico et al.

As another example, the dependent claim 7 recites “*characterized in that, on
each side of the hitherto determined region of interest, pointers starting from both
ends of the side are in each case positioned on the outermost tile determined as
belonging to the region of interest, wherein the pointers travel towards one another
and row by row adopt the position of a tile lying further outwards or retain the same
25 position in the case of an "inlet" and in that the path of the pointers until the pointers meet forms the respective border of the final region of interest,*” which is not disclosed in the cited reference of Yau et al. The cited passage of Yau et al. from column 5, line 60, to column 6, line 8, fails to disclose “*wherein the pointers travel
towards one another and row by row adopt the position of a tile lying further
30 outwards or retain the same position in the case of an "inlet" and in that the path of the pointers until the pointers meet forms the respective border of the final region of interest,*” as recited in the dependent claim 7. Thus, the dependent claim 7 is not obvious in view of the cited references of Yau et al. and Tico et al.

Applicant respectfully requests reconsideration of the claims in view of the remarks made herein. A notice of allowance is earnestly solicited.

Respectfully submitted,

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